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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,789	01/13/2006	Tomoyuki Horiguchi	TIP-05-1845	3315

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IP GROUP OF DLA PIPER US LLP
ONE LIBERTY PLACE
1650 MARKET ST, SUITE 4900
PHILADELPHIA, PA 19103

EXAMINER

HUTCHINSON, SHAWN R

ART UNIT	PAPER NUMBER
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1709

MAIL DATE	DELIVERY MODE
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09/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,789

Applicant(s)

HORIGUCHI ET AL.

Examiner

Shawn R. Hutchinson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 01/13/06, 05/19/06, & 12/07/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: 'decitexes' should be 'decitex' or 'dtex,' [0019, 0052, 0054, 0062, 104, 107, and 109].

Appropriate correction is required.

Claim Objections

2. Claims 33 and 38 are objected to because of the following informalities: 33: 'decitexes' should be 'decitex' and 38: '0.1 to 0.8 time' should be '...0.8 times.'

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

4. Claims 40-48 are rejected under 35 U.S.C., second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome a provisional rejection based on a nonstatutory double patenting ground provided the conflicting application either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered agent may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 40-42 and 45-48 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/522519 (US 20060035556 A1). Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application claims dyed artificial leather comprising entangled ultra-fine polyester fibers containing particulate pigments, [0036-0039]. While the fabric properties – weight, apparent density, tear strength, and tensile strength – are absent from the copending application these features would have been obvious to modify for end use. The Examiner views the articles are substantially identical given the disclosure, [0034-0040].

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the U.S.

8. Claims 29-36 and 38-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Mimura, et al. {Mimura} (US 6566287 B1).

9. Regarding Claims 29-32, Mimura teaches and discloses by example forming nonwoven fabrics from short fiber splittable bicomponent fibers, (Column 1, Lines 8-13), that are entangled, (Column 3, Lines 1-10), whereby the fibers comprise islands of polyamide, (Column 18, Lines 25-30) or polyester, (Column 20, Lines 6-10) and a dissolvable sea of polyethylene. The unsplit-fiber density was approximately 5.3-denier, 5.8-dtex and the ultra-fine fiber density was 0.14-denier, or 0.16-dtex, (Column 20, Lines 33-35). The nonwoven fabric weights were 400- and 500-g·m⁻² with apparent densities of 0.33- and 0.34-g·cm⁻³, respectively, (Column 18, Lines 35-40 and Column 20, Lines 20-25). Tensile strength of one ultra-fine fiber sheet formed with impregnation polyurethane of dissolved polyurethane was 11.9-kg·cm⁻¹ or 116.7-N.

The Examiner understands that the “short fiber” nomenclature is synonymous with staple. There is no reason to believe that the polyurethane in the sheet contributes a substantial amount to the tenacity of the fabric because polyurethane is used for its elasticity, not its strength. Fibers from polyester and polyamide are known to have a much higher modulus than polyurethane. Mimura is silent regarding the 10% modulus

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and tear strength of the fabric. However, because the fabric comprises identical polymer whose fibers are within the range specified by the Applicant's claims, the Examiner considers the examples taught by Mimura and by Applicant to be substantially identical, the properties Applicant claims are inherent to the fabric by Mimura, and that the disclosure by Mimura thereby anticipates on its face the Applicant's claims.

The courts hold that for references teaching substantially identical products, that the burden shifts to the applicant to show an non-anticipated difference, see *in re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997) and *in re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

10. Regarding Claims 33-36 and 38, Mimura teaches a method of producing the nonwoven fabric by first needle-punching cross-lapped carded fabrics and then hydroentangling the web, (Column 6, Lines 44-63). The water pressure of the jets is up to $200\text{-kg}\cdot\text{cm}^{-3}$ or 19.5-MPa, (Column 6, Lines 55-58). The apparent density of the nonwoven is 0.18- to $0.4\text{-g}\cdot\text{cm}^{-3}$, (Column 3, Line 60), with an example reported to be $0.232\text{-g}\cdot\text{cm}^{-3}$, (Column 16, Lines 48-50). The orifices of the hydroentanglement manifold have a diameter of 0.05- to 0.5-mm, (Column 6, Lines 58-60). Regarding treatment, when the fabric is in contact with the jets, it may be dried, (Column 6, Lines 60-63), or further split, (Column 9, Lines 39-41 and Lines 59-61).

Mimura is silent about the apparent density of the needle-punched fabric and the thickness change after hydroentangling. However, there is logical reason to believe that the apparent density is necessarily within the range claimed, given the value cited

above for the fabric. Compaction of the fabric is necessarily the case when entangled through needle-punching or hydroentangling. The change in thickness during hydroentanglement is possible with the teaching by Mimura since the jet manifold is substantially identical and operates at twice the pressure claimed. The Examiner considers the examples taught to by Mimura and the Applicant to be substantially identical, the properties claimed by the Applicant are inherent to the fabric by Mimura, and that the disclosure by Mimura thereby anticipates on its face the Applicant's claims.

The courts hold that for references teaching substantially identical products, that the burden shifts to the applicant to show an non-anticipated difference, see *in re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997) and *in re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

11. Regarding Claims 39-46, Mimura teaches and discloses examples leather-like sheets comprising ultra-fine nonwoven fabrics. The unsplit fiber density was approximately 5.3-denier, 5.8-dtex and the ultra-fine fiber density was 0.14-denier, or 0.16-dtex, (Column 20, Lines 33-35). The sheet has a fabric weight of $483\text{-g}\cdot\text{m}^{-2}$, apparent density of $0.4\text{-g}\cdot\text{cm}^{-3}$, and tensile strength of $11.9\text{-kg}\cdot\text{cm}^{-1}$, or 129.5-N, which satisfies the relationship between tensile strength and fabric weight in instant Claim 40, (Column 20, Lines 55-56). Mimura teaches the techniques for altering (raising) a surface to mimic a grain layer and include these effects in examples, (Column 12, Lines 6-23 and Column 15, Lines 46-61).

The Examiner understands that the "short fiber" nomenclature is synonymous with staple. There is no reason to believe that the polyurethane in the sheet substantially detracts from the tenacity or tear strength. Fibers from polyester and polyamide are known to have much lower elongation than polyurethane and higher modulus. Mimura is silent regarding the tear strength of the sheet and abrasion loss. However, because the fabric comprises identical polymer whose fibers are within the range specified by the Applicant's claims and the leather-like sheets share impregnation of an elastomeric polymer, (Column 10, Lines 12-25) and [0091], the Examiner considers the examples taught to by Mimura and the Applicant to be substantially identical, the properties claimed by the Applicant are inherent to the fabric by Mimura, and that the disclosure by Mimura thereby anticipates on its face the Applicant's claims.

The courts hold that for references teaching substantially identical products, that the burden shifts to the applicant to show an non-anticipated difference, see *in re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997) and *in re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. Claims 1-36, 38-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura, et al. {Mimura} (US 6566287 B1).

As discussed above, Mimura teaches and discloses by example forming nonwoven fabrics from short fiber splittable bicomponent fibers, (Column 1, Lines 8-13), that are entangled, (Column 3, Lines 1-10), whereby the fibers comprise islands of polyamide, (Column 18, Lines 25-30) or polyester, (Column 20, Lines 6-10) and a dissolvable sea of polyethylene.

Mimura discloses requisite teachings such that fabrics, methods of making, and leather-like sheets according to the Applicant's claims can be made. The fabrics and leather-like sheets disclosed overlap in range of properties and disclose examples that are in accordance with the Applicant's claims. The Examiner further believes that routine experimentation by someone of ordinary skill in the art would allow one to optimize the overlapping ranges such as fabric weight, the apparent density between the needle-punching and hydroentangling method steps, and the fabric thickness

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between needle-punching and hydroentangling method steps, as well as arrive at the undisclosed properties, such as tear strength, 10% modulus, and abrasion resistance.

The courts have held that in the case where the claimed ranges, "overlap or lie inside ranges disclosed by the prior art," a *prima facie* case of obviousness exists," see *in re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), and, "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation," see *in re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPE 1955). Therefore, it would have been obvious to follow the teachings set forth by Mimura and obtain the invention as specified.

15. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura, et al. {Mimura} (US 6566287 B1) in view of Honda, et al, {Honda} (US 5256429 A).

Mimura teaches an ultra-fine nonwoven fabric for use as artificial leather comprising splittable bicomponent nylon and polyester fibers that is needle-punched and later hydroentangled. Mimura lacks teaching that the fabric, after needle-punching and before hydroentangling can be split perpendicularly to the thickness direction.

Honda teaches a nonwoven fabric for use as artificial leather where a needle-punched sheet is split by peeling them apart. Honda teaches details about this process especially to obtain undamaged sheets, in that the more strongly punched, the harder the fabric is to split, (Column 5, Lines 20-34).

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At the time of the invention, it would have been obvious to one of ordinary skill to use the teaching to split a needle-punched fabric {Honda} when producing the splittable bicomponent short-fiber fabrics that are needle-punched and later hydroentangled before being made into artificial leather {Mimura}. The motivation would be to increase productivity and reduce cost as carding and cross-lapping is often a substantially slower process than hydroentangling. Therefore, it would have been obvious to combine Mimura and Honda and obtain the invention as specified.

16. Claims 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mimura, et al. {Mimura} (US 6566287 B1) in view of Katayama, et al, {Katayama} (US 6537660 B2).

Mimura teaches an ultra-fine nonwoven for artificial leather comprising splittable nylon and polyester fibers that is needle-punched and hydroentangled. Mimura lacks teaching that the ultra-fine fibers can optionally contain particles of micron size.

Katayama teaches ultra-fine splittable nonwoven fabrics for leather- or suede-like sheets comprising fibers or polyester or polyamide and entangled through needle-punching or water-jets. The fibers contain particles between 0.01- and 5- μ m for use as stabilizers, colorants, absorbers, antioxidants, antistatic agents, flame retardants, plasticizers, lubricants, and crystallization governors, (Column 6, Lines 44-60). These applications correspond with the uses taught by Applicant, [0034].

At the time of the invention, it would have been obvious to one of ordinary skill in the art to include particles in nonwoven fabrics of ultra-fine fibers {Katayama} when producing the splittable bicomponent short-fiber fabrics that are needle-punched and later hydroentangled before being made into artificial leather {Mimura}. The motivation would be to alter the properties of the fibers and fabrics. Therefore, it would have been obvious to combine Mimura and Katayama and obtain the invention as specified.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for additional information.

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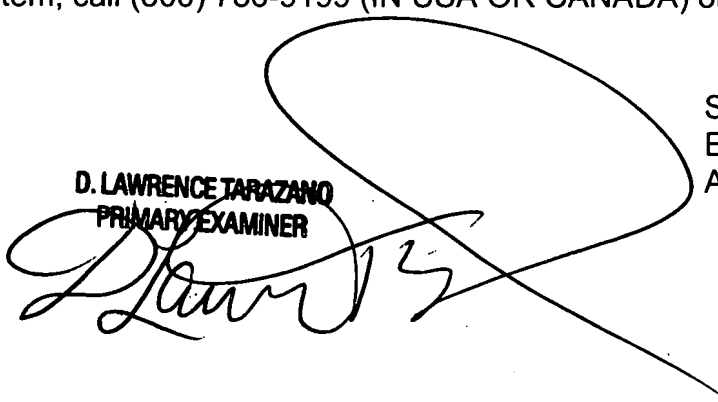
Conclusion

Any inquiry concerning this communication from the Examiner should be directed to Shawn R. Hutchinson whose telephone number is (571) 270-1546. The Examiner can normally be reached on 7 AM to 5 PM, M-F, odd Fridays off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, D. Lawrence Tarazano can be reached on (571) 271-1515. The fax phone number for the organization where this application is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call (800) 786-9199 (IN USA OR CANADA) or (571) 272-1000.

D. LAWRENCE TARAZANO
PRIMARY EXAMINER

A large, stylized handwritten signature in black ink, likely belonging to D. Lawrence Tarazano, is written over the printed name and title.

Shawn R. Hutchinson
Examiner
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